Winter 2007

LOUISIANA Conservationist

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Cover Story:
Frog Fight!

Inside:

Fly-fishing on Lake Martin

LSU's Feathered Library

Dedicated to the conservation and restoration of Louisiana's natural resources.
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Comments

Bryant O. Hammett Jr., Secretary

As a lifelong Louisiana resident who grew up surrounded by outdoor opportunities, I have an appreciation for this state's abundant natural resources. In Concordia Parish, the oxbow lakes that had broken off from the Tensas and Mississippi rivers offered numerous opportunities to fish or just get out on the water. Hunting options were equally plentiful, and I have spent hours in the hardwood forests of central Louisiana. I still enjoy those opportunities.

Following graduation from Louisiana Tech, I moved back home to Concordia and after brief stints with private sector engineering firms and the Department of Transportation and Development, I opened an engineering firm. My state service as an elected official began in 1991, and while representing Concordia, Tensas, Madison and East Carroll parishes, I gained a front row view of state government at work. Participation on the House Ways and Means Committee and Natural Resources Committee also allowed me to debate and defend the balanced use of the state's renewable and non-renewable assets.

Governor Blanco's offer to continue my state service at the Louisiana Department of Wildlife and Fisheries (LDWF) provides me the opportunity to support the efforts of the professionals who manage the fish and game habitat we all value. Whether you consume the products our commercial fishermen bring to market or hunt the waterfowl nurtured by this agency's wildlife biologists and supporting conservation organizations, you have a stake in all that this agency oversees.

The staff at LDWF needs your input. Call our headquarters or regional offices when you have questions. Attend one of the public meetings in March when hunting season dates and hunting regulations are discussed. Utilize the comment section on the LDWF Web site if you don't know who to call on an issue; our Web master will route your questions to the appropriate divisional contact.

As a new year begins and I settle into my new role, the department's projects-in-progress list points to a busy year that includes resource and infrastructure recovery efforts.

Most field offices impacted by Katrina or Rita have resumed operations, but there are areas where there is much to be done. Continued LDWF hurricane recovery efforts include facility repairs or reconstruction projects from the Marine Fisheries field office near Lake Borgne to the Rockefeller Wildlife Refuge complex in Cameron Parish. A concentrated effort is also underway to re-establish an LDWF office in New Orleans with all divisions under the same roof.

The Marine Fisheries Division continues to work with the commercial and recreational fishing industry for funding to get more industry-related businesses back to work, including Louisiana Recovery Authority funding programs. The "Back to the Dock" program, developed by the ad hoc Louisiana Fishing Community Rebuilding Coalition, continues to evolve with input from the South Central Planning District, the Louisiana Recovery Authority, and the Seafood Promotion and Marketing Board, as well as LSU's AgCenter and Sea Grant programs.

Additionally, Marine Fisheries will play a key role in utilization of NOAA federal recovery funding for resource replenishment, fishing ground rehabilitation and research that will track the recovery of fisheries. Opportunities for fishermen to work with LDWF personnel and participate in resource-related projects are being developed.

Inland Fisheries is continuing "Operation Jumpstart" hurricane recovery activities which include stocking LDWF hatchery-raised fish, purchasing fish from private hatcheries utilizing donations and relocation of bass from other waterbodies within the state. The goal is to return the freshwater fisheries in hurricane impacted areas to near normal levels as soon as possible. These recovery efforts utilize both department employees and volunteer sportsmen.

Looking ahead to hurricane seasons yet to come, the Enforcement Division is now responsible for coordinating the search and rescue (SAR) efforts of local, state and federal resources once the Governor declares a state of emergency. The absence of major storm activity during the 2006 hurricane season did provide time to revise procedures and intensify training for future large-scale SAR missions, but there are still needs to be met regarding communications interoperability.

As I have learned quickly, the seasonal challenges facing this department require a continuous plan-launch-evaluate cycle. It will be a busy 2007, and I look forward to working with you to make it successful.

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CONTENTS

4 **cover story**

Frog Fight!

Male bullfrogs compete for territory.

By Joel Courtney

feature articles

8 Managing Native Habitat for Deer

Tips and resources to improve the deer habitat on your land.

By David Moreland

11 Lafayette Native Wins

2007 Louisiana Duck Stamp Competition Results

12 Partners in Conservation

LDWF and the Louisiana Army National Guard.

By Fred Kimmel

16 Lake Martin: The Jewel of March

This small, south Louisiana lake offers big action for winter fishing.

By Pete Cooper Jr.

20 LSU's Feathered Library

The formative years of the world-class bird library at Louisiana State University.

By James Bishop, Ph.D.

28 50 Years of Wildlife Disease Study

The Southeastern Cooperative Wildlife Disease Study celebrates 50 years.

By David Moreland

departments

32 LDWF Outdoor Journal

Wildlife and Fisheries News

34 Agents of Change

LOGT and LDWF Enforcement: Partners vs. Crime

By Lt. Col. Keith LaCaze

35 LA Cuisine

Whole Foods Market in Baton Rouge prepares spicy Louisiana shrimp.

front cover Bullfrog Fight *By Mack Barham, M.D.*
back cover Sunrise *By Ryan Hagerty/USFWS*

FROG FIGHT!!

Male bullfrogs compete for territory.

Story by
***Joel* COURTNEY**

Photos by
***Mack* BARHAM, M.D.**

In the usually serene waters of a local pond, amidst a chorus of croaks a tension is building, a tension that will culminate in a brief battle of size, strength and will. Two male bullfrogs (*Rana catesbeiana*) lock eyes, their yellow throat sacs fully inflated. The tension increases as the distance between them decreases.

One of these bullfrogs is an intruder, an unwelcome visitor in the other's self-designated territory. His mere presence makes him competition for the multiple fertile females that share this body of water and will soon be choosing a mate. The resident of this territory must ward off male visitors who pose a threat during the important mating season. Slowly, the males move closer.

In the face of a challenge like this, a resident bullfrog will commonly attempt to intimidate invading males by emitting a deep croak and displaying the yellow gular area of his throat. Sometimes this is enough, and the invading male will flee the area. Other times, the intruder will reciprocate the aggressive behavior. On this occasion, the unwelcome male has chosen to advance. The match is underway.

The opponents circle slowly as they approach, croaking and posturing in the hopes of a quiet retreat; neither frog appears ready to back down. Occasionally the agonistic threats aren't enough to thwart the intruding frog and the struggle turns physical. Just feet apart, the swimming shifts to a slow crawling movement further closing the distance.

After a brief pause, the frogs leap at one another and lock in a tussle that resembles a sumo-wrestling match. The frogs grapple chest to chest, kicking their hind legs in an attempt to gain physical leverage. The hold is broken without a clear victor, so the males reorient themselves and again collide in a stunning display of physicality.

This aggressive encounter continues until finally the intruder is toppled over onto his back. Sensing he is engaged in a battle he cannot win, the defeated bullfrog deflates his throat and allows himself to sink below the surface where he can safely retreat from his opponent. The match is over. The victorious male can now focus his energies on attracting a mate to his successfully defended territory.

Territoriality in species is commonly exhibited as a means of protecting a critical resource, whether it is a plentiful food supply, shelter from predation or a partner for mating purposes. Many animals exhibit aggressive territorial behavior to ensure that those resources remain readily available. For example, white-tailed deer fight for does during the rut, and many species of birds will attack each other (and other species) over food.

In the case of the bullfrog, territoriality is most commonly exhibited in the defense of a home range. This home range is used primarily in the act of attracting and securing a mate during breeding season.

"Bullfrogs will eat just about anything that gets in front of them: baby turtles, mice, baby muskrats, but mostly the easy stuff like insects, so food supply is usually plentiful," says Jeff Boundy, a Louisiana Department of Wildlife and Fisheries (LDWF) biologist who specializes in amphibians. "Since they don't really have to fight for a food source, mating is usually the cause of aggressive behavior in male bullfrogs."

During the daylight hours, bullfrogs are typically inactive, spending their time camped in shallow water near the banks of a pond, usually obscured from view.

"Bullfrogs tend to stay in the water, but they like to have some cover, so they'll back under a log or shuffle back in some leaves," said Boundy. "When they aren't feeding, which is usually during the daytime, most of the species down here will tend to go just off shore into a little thermo-regulated area where they can keep the moisture in."

In Louisiana, the breeding season for bullfrogs begins at the end of March and runs through June, peaking from mid-April to mid-May. During this time, male bullfrogs become much more active as they must successfully attract a mate amidst a pond full of potential suitors. As the sun goes down, males will move from their coves and venture out into the deeper waters where they will join their competitors in a chorus of calls that will hopefully woo a potential companion.

"They have their little area that they settle in during the daytime, and during the breeding season they'll try to expand that area by going out into the middle of the water, where they normally don't go because it's dangerous and there's nothing to eat," says Boundy. "They'll settle a larger area and guard that area against other males."

Mating occurs when the female emerges from seclusion and cruises from territory to territory within the breeding pond. During peak breeding times, it is the male's song—a low, pulsating croak—that draws the female into the area. After a survey of the potential suitors, the female selects the most suitable mate and makes physical contact, eliciting a response from the calling male. Since the call is the primary method in attracting a female, some competitive males may make subtle adjustments to their calls in order to stand out from the crowd.

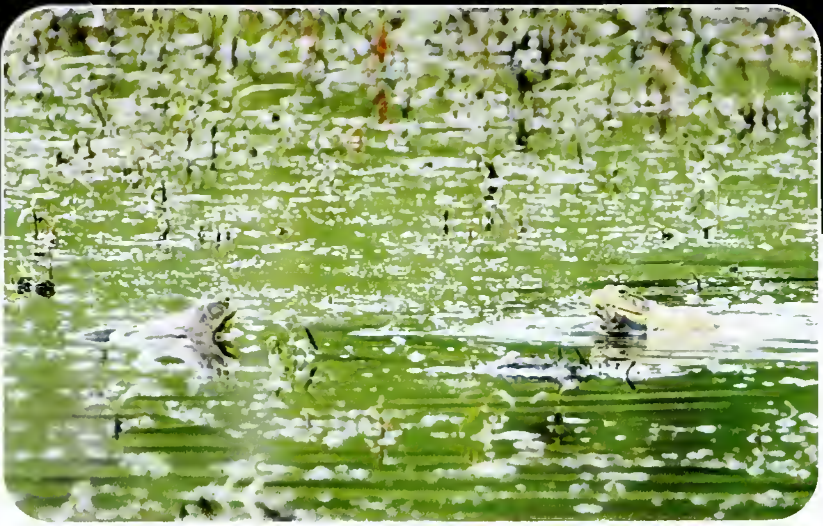
"Most frogs of the same species have the same call, but a male may change his call slightly," said Boundy. "They don't have great vocal cords, but they may make an adjustment that gives them a higher pitch or greater trill when they're calling. This slight change may get some of the females to at least turn around and look at him."

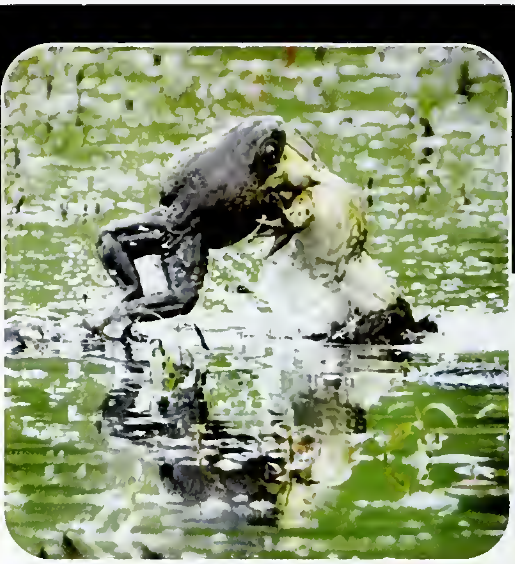
While the males attempt to entice the females with their sweet songs, a neighboring male will occasionally move into the fringes of another's territory. Whether by chance or intentionally, during the mating season this action is perceived as threatening, and the resident will often take some defensive action. The defensive action is usually a threatening posture or, if provoked further, a physical confrontation such as the one described above.

"Mostly they just display," says Boundy. "The males have a bright yellow throat and they'll advance toward one another showing this bright yellow throat until one of them backs away. If someone doesn't back away, they both go at it and do the Sumo wrestler bit until finally, one does go away."

To the untrained eye, it might be difficult to discern that a tense battle for intraspecies dominance is taking place. Typically, it's the individuals who research and study the biology of bullfrogs who

At left, two male bullfrogs face off before the struggle begins.





After the initial staredown, the two frogs swim toward each other and leap simultaneously, colliding in mid-air.

relay first person accounts of the aggressive physical confrontations. Even so, due to the rather secretive nature of bullfrogs, it's impossible to know just how often confrontations such as these take place and exactly what the subtleties of action mean.

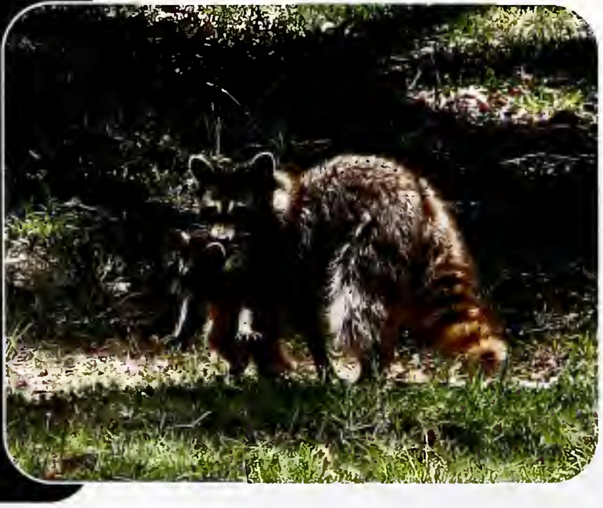
"It's not terribly common to see them go at it like that," says Boundy. "Even if you did happen to see a couple of males going at each other, the physical confrontations usually don't last very long, so by the time you realize what's happening, it's over."

However, for one Louisiana native, an appreciation of wildlife and a trusty telephoto lens led to an amazing photographic documentation of an intense and exhausting territorial struggle between two rival male bullfrogs.

Jonathan Mack Barham, M.D. is a doctor of Obstetrics and Gynecology in Monroe, La., and an avid outdoor enthusiast. A lifelong hobbyist nature photographer, he has recently added digital photography to his list of interests. Whenever his busy schedule allows, Dr. Barham travels to the nearby Black Bayou Lake National Wildlife Refuge to soak up the outdoors while snapping away photos of the numerous natural beauties on display.

"I'd go out in the morning," says Dr. Barham. "They have a wildlife pier that goes out into Black Bayou, maybe 100 yards. It wouldn't be uncommon for me to sit out there two or three hours with my camera just looking for interesting things to happen."

Did you see something interesting?



If so, we'd love to hear about it...

Alexis Vicknair of New Orleans captured this photo last summer of a mother raccoon carrying her baby in her mouth.

If you'd like to share your story or photo with us, send it to *Louisiana Conservationist*:

- **By email at *jwilson@wlf.louisiana.gov.***
- **By mail at P.O. Box 98000,**
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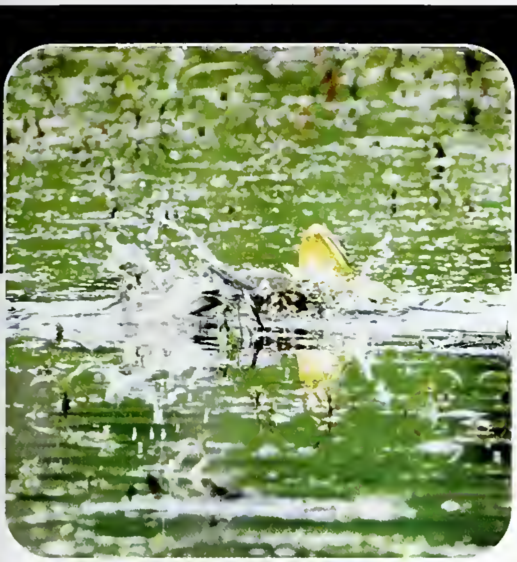
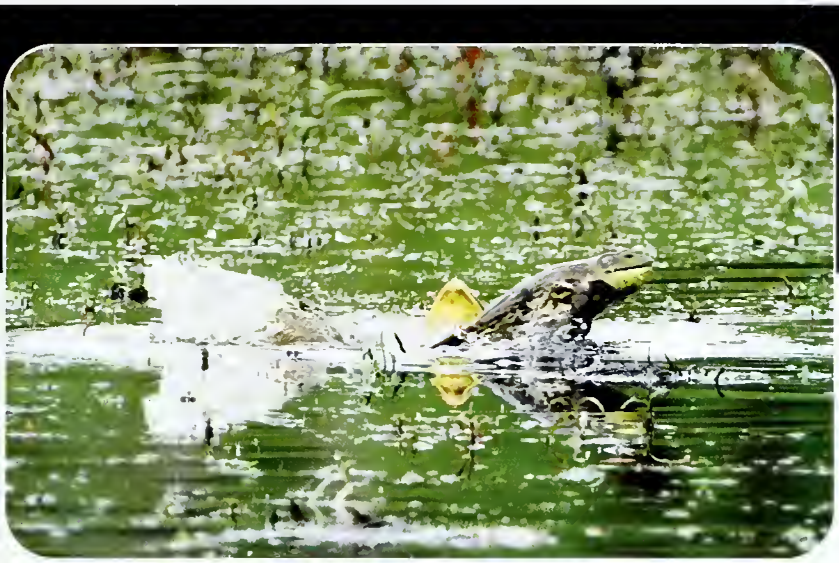
(Please include a stamped, self-addressed envelope if you would like your photo returned.)





In the last collision, the invading frog is knocked over onto his back and swims away defeated.

And happen they did, when early one morning on Black Bayou, Dr. Barham spotted the two frogs and luckily had his Nikon D2X and tripod on the ready.

"I was actually out looking for birds," recalls Dr. Barham. "I was in the photo blind and there were probably 25 bullfrogs scattered around the water. They were just croaking away merrily when I noticed these two, swimming toward one another and then simultaneously leaping into each other. I'd never seen anything like that before and I had my 800 MM lens on a tripod, so I immediately decided that I'd take frog pictures instead of bird pictures."

After roughly 20 minutes and four or five hard collisions, one frog sat proudly victorious as the other slowly sulked away. Dr. Barham kept his camera trained on this battle until it was over, taking pictures at various intervals of the dramatic struggle.

Assuming he had just witnessed a battle for either territory or sexual dominance, Dr. Barham says he was reminded of similar intraspecies confrontations he's witnessed.

"I've seen big-horned sheep fight, and it kind of reminded me of that, in that the loser isn't killed," says Dr. Barham. "I guess it would be bad for the species if they wiped each other out in their fighting," he adds with a laugh.

"It's definitely not a fight to the death," says LDWF biologist Jeff Boundy. "They aren't physically equipped to kill one another."

For Dr. Barham, who's been enjoying the outdoors since his childhood days on a farm outside of Oak Ridge, photographing nature during one of its most interesting moments has afforded him a sense of enduring excitement and enthusiasm.

"I thought to myself, *'This is really cool,'*" says Dr. Barham. "I'd never seen anything like that and I was just really glad that I had my camera set up on the tripod where I could document it. It was simply fascinating."

Who knows whether or not the victorious bullfrog Dr. Barham photographed went on to successfully mate in his recently defended territory. Maybe he was later overtaken and forced out, beaten at his own game. What is known, however, is that no matter how uncommon the sight, male bullfrogs will proactively and aggressively defend their territory against competing males, win or lose.

A department employee of seven years, Joel Courtney is the Audio/Visual Production Manager for the Louisiana Department of Wildlife and Fisheries.

The victorious frog swims alone. Future attempts to mate still depend on his being selected by a female, but at least he has successfully defended his territory, thereby decreasing his competition.

MANAGING Native Habitat FOR DEER

Story and Photos by
***David* MORELAND**

Deer are the product of the environment in which they live. This environment is commonly referred to as DEER HABITAT. In Louisiana, deer can be found on all habitat types and in all 64 parishes. Even Orleans Parish, which includes the city of New Orleans, has a population of white-tails.

Above, left to right: Fallow discing in the woods is one method available to promote growth of desirable native herbaceous plants that provide food for wildlife. Deer, quail and turkey will greatly benefit from this activity. Planting sawtooth oaks in open areas provides deer with a good food source in late summer and early fall. The open areas can simply be managed for native browse species by bush-hogging.

Ideal deer habitat should provide the basic necessities for life in the deer world: food, cover (escape from predators, bedding, fawning) and water. The quality of the habitat determines the growth and development potential for the deer that occupy that habitat type. Marsh habitat does not provide deer with the quality food like that of a mixed-pine/hardwood forest. For example, adult bucks taken from the marshes at Pass a Loutre WMA may weigh 130 pounds. If released on good forested habitat, the same bucks have the potential to become 200-pound animals.

In Louisiana, the bottomland hardwood forest habitat is generally considered the best deer habitat. This is especially true if there is cropland associated with the forested habitat. However, a well-managed mixed-pine/hardwood forest can produce deer similar in quality to the bottomland forest habitat. On the low end of the habitat scale in Louisiana are the coastal marsh habitat and the dominant pine plantation forest habitat.

White-tailed deer (*Odocoileus virginianus*) are dependent upon their habitat to provide the food necessary for growth and development, so management of this food resource is an important component of a deer management program. Deer managers must have a good understanding of the plants that deer utilize for food. Plant groups that deer eat include woody plants (fruits and browse), grasses, herbaceous plants (fruiting structures and browse), ferns, grass-like plants and fungi.

Deer managers must be able to first identify the native plant species that occur on a habitat type. The manager must also be able to understand the relationship and importance of a particular plant species to that habitat type. Both woody and herbaceous plant species are important to deer. Therefore, it is important to maintain a diversity of plant species in the habitat in order to meet the nutritional needs of the deer throughout the year.

Too often deer managers focus on food plots and feeders as the way to meet the nutritional needs of the deer herd. These activities should be considered supplemental activities. The main focus of a deer habitat program in Louisiana is sound forest management. The forest must produce the required nutrition needed for the type of antler and body growth that hunters desire. Managers should, however, understand habitat limitations and manage the deer herd accordingly, knowing that growth and development expectations will be different from one habitat type to another.

An alternative to supplemental plantings with agricultural grasses and crops is to manage the openings with native plant species. Hedgerows of blackberry, American beauty berry, privet, persimmon, pears and crabapples provide both forage and fruit for deer and other wildlife species. Hedgerows create nesting habitat for quail, rabbits and songbirds. Plantings of native grasses and

Indian pipes (*Monotropa uniflora*) are small native plants without chlorophyll that occur in upland hardwood habitat. They are frequently eaten by deer.

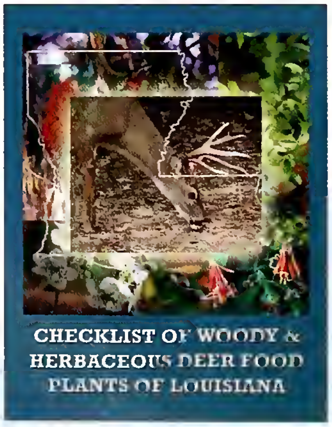
The main focus of a deer habitat program in Louisiana is SOUND FOREST MANAGEMENT.

herbaceous plants can provide annual food and cover for deer and other wildlife species through simple maintenance work such as bush-hogging or fallow discing, which involves lightly plowing the ground to disturb the soil surface and promote growth of native plants.

A deer hunter that can recognize native plants is one up on other deer hunters. The reason is this: deer hunters who understand the ecological workings of the forest have an advantage over deer hunters who only focus on food plots or feeders. These hunters know what native plant species are available and are attracting deer. They know that if the water oaks in the creek bottoms don't produce acorns, they should check the ridges where the white oaks grow or check the persimmon tree in the corner of the hay field. This ability to recognize sign is a skill that many hunters often lack.

The bottom line is simply this: manage the native habitat, maintain a diverse native habitat and keep the deer herd in balance with the habitat. If this is done, the herd should be healthy and productive. Deer can and do impact the native habitat. Over-browsing of desirable trees, shrubs and vines results in habitat problems. The regeneration of oak and other desirable hardwood species will be overbrowsed and removed from the landscape. The loss of these species will impact the future quality of a forest stand. Managers who can recognize these important plant species will be able to recognize the habitat symptoms associated with overbrowsing and manage the herd accordingly.

Formerly the state's Deer Study Leader, David Moreland now serves as the LDWF Wildlife Administrator. He has been with the department since 1976 and is a frequent contributor to Louisiana Conservationist.



Checklist of Woody and Herbaceous Deer Food Plants of Louisiana
By David Moreland

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Lafayette Native Wins

2007 Louisiana Duck Stamp Competition

An unprecedented third round of voting was required as a tiebreaker to determine the winner of the 19th annual Louisiana Waterfowl Conservation Stamp Competition sponsored by the Louisiana Department of Wildlife and Fisheries (LDWF).

After a second place finish in the 2004 and 2006 competitions and a third place finish in 2005, Tony Bernard of Lafayette prevailed over nine other participants and second place finisher Jeff Klinefelter from Indiana in the closest competition in the history of the event. Third place went to Joanne Graham of California.

"It was tense sitting there watching this take place," said Bernard. "I knew it would be close, but I didn't know there would be a tie. It was just an awesome feeling to win."

Bernard's painting (shown above) portrays a chocolate Labrador retriever gazing into the horizon as a flock of mallards descends upon a body of water. It will be featured on the 2007 Louisiana Duck Stamp. He was also recognized at a Louisiana Wildlife and Fisheries Commission meeting last fall.

"When I took second last year with the yellow lab and third with the black lab the year before that, I hoped that I would move up and get first with the chocolate lab," said Bernard. "According to the rules, once you win, you have to sit out two years. So if I would have won the prior years, I wouldn't have been able to paint all three labs."

In addition to wildlife art paintings, Bernard has been commissioned to produce original art for local and regional festivals, professional athletic teams, NASCAR and Southeastern Conference sporting events. Bernard features his art and duck stamp competition paintings at *www.bernardstudio.com*.

LDWF initiated the "Retrievers Save Game" series two years ago when it featured a black Labrador, because all of the waterfowl species were used in the first 16 years of the competition. The contest rules stipulate that the retriever must be prominent in the design, which must also include live waterfowl selected by the artist.

The Louisiana Waterfowl Conservation Stamp program was established in 1988 by the Louisiana Legislature to generate revenue for conservation and enhancement of state wetlands and other worthy programs that benefit Louisiana's ducks and geese. This program has generated over $9 million for wetland conservation in Louisiana since 1989, with over $500,000 from last year's competition alone.

"These dollars have helped acquire several tracts of land in need of duck and geese habitat improvement," Robert Helm, LDWF waterfowl program manager said. "Money is also budgeted each year from this fund to help repair levees and perform other wetland management practices on our state's wildlife management areas. This money is extremely important to this department and to waterfowl and wetland habitats."

The Louisiana Waterfowl Program, a cooperative endeavor that includes LDWF, Ducks Unlimited (DU) and the Federal Natural Resources Conservation Services, has also benefited private lands.

Prints of the Bernard painting will be available from the artist this summer. The 19th anniversary 2007-08 stamp, featuring Bernard's work, is expected to go on sale June 1, 2007. The artist will retain the original artwork and will have reproduction rights to the image for prints and other commodities after LDWF has used the image to produce the stamps.

Judges for the competition included Dr. Headley Adelmann, artist and retired biology professor from Hammond; Jerry Bower, frame shop and art studio owner in Lafayette; Joe Herring, a retired former LDWF secretary and wildlife biologist from Baton Rouge; Dick Russel, a longtime dog trainer from Baton Rouge; and Jason Thomasee, the current state DU chairman from Alexandria.

Photo courtesy of LANG

Photo courtesy of LANG

Partners in Conservation

LDWF AND THE LOUISIANA ARMY NATIONAL GUARD

Story by
Fred KIMMEL

The military mission of the Louisiana Army National Guard (LANG) is well recognized, but few people know that LANG is also an important steward of Louisiana's natural resources. LANG manages nearly 30,000 acres of habitat at its three largest training sites: Camp Beauregard, Camp Villerie and Camp Minden. This habitat ranges from longleaf pine to cypress swamps and is home to a diverse array of fish and wildlife.

Military installations are required by federal law to develop natural resources management plans that conserve fish and wildlife resources found on them and to allow for public use in a manner consistent with the military mission. The broad-based LANG natural resources management program is directed at maintaining and enhancing ecosystem viability and biodiversity.

Although the land at Camp Beauregard WMA is primarily used as a troop training facility, LANG also manages the timber for commercial production and wildlife conservation. Kevin Chapman (above) is the Natural Resource Program Manager who coordinates and implements many of the natural resource programs for LANG.

LANG has recognized the importance of the longleaf pine (*Pinus palustris*) ecosystem and much of the forest management work on Camp Beauregard (13,000 acres in Rapides and Grant parishes) and Camp Villerie (1,300 acres in St. Tammany Parish) and remains focused on restoring this ecosystem. Longleaf pine was once the dominant species in a unique ecosystem of more than six million acres of forestland in Louisiana. However, longleaf pine forest has been reduced by approximately 95 percent due to a number of factors. After the longleaf was cut, most land was replanted in loblolly pine (*Pinus taeda*) by those who wanted to produce timber for the commercial market. Longleaf produces excellent timber, but historically it has not been used by the industry because it is more difficult to establish a new stand and, at least initially, is a little slower growing. Also, the lack of prescribed burning contributed to the decline. Since longleaf pine is fire-dependent, without periodic fires, other species invade the site and out-compete the longleaf.

Numerous species of wildlife utilize longleaf pine communities, and many of those species that are dependent on them are declining. Longleaf pine communities provide habitat to at least 17 bird species, 15 reptile species, nine mammal species, and eight butterfly species that are listed as species of conservation concern in Louisiana.

Restoration of the longleaf ecosystem requires that existing stands of loblolly or slash pine be replaced by longleaf and that stands undergo prescribed burning on a regular basis. Appropriate sites on Camp Beauregard and Camp Villerie will be replanted with longleaf pine when the loblolly pine timber is harvested. Prescribed burning is applied to approxi-

Although longleaf pine acreage in Louisiana has experienced declines, much of it is being restored to appropriate sites throughout the state, including LANG bases.

Participants in a LANG summer youth program with a wood duck box they erected on Camp Beauregard.

Photo by Fred Kimmel

Inset photo courtesy of LANG

Photo by Fred Kimmel

Prescribed burning is a key component of the LANG wildlife habitat management program.

mately one-third of the pine stands each year to develop and maintain the ground cover characteristics of longleaf pine forests. Additionally, several longleaf pine demonstration areas have been established on Camp Beauregard to highlight longleaf pine restoration activities.

Two important residents of Louisiana pine forests, particularly longleaf pine forests, are bobwhite quail (*Colinus virginianus*) and the endangered red-cockaded woodpecker (*Picoides borealis*). The Louisiana Department of Wildlife and Fisheries (LDWF) developed a bobwhite quail management plan for Camp Beauregard at the request of LANG. The bobwhite plan emphasizes prescribed burning, thinning of pine stands, conversion to longleaf pine and development of supplemental food sources. LANG has cooperated with the U.S. Fish and Wildlife Service to develop an individual Safe Harbor Agreement for Camp Beauregard. The Safe Harbor agreement obligates LANG to manage habitat in ways favorable to red-cockaded woodpeckers, but gives them regulatory protection if the red-cockaded woodpecker population increases.

A significant part of the natural resources program on LANG installations is the development of public use opportunities. Both LANG and LDWF cooperate to manage the Camp Beauregard Wildlife Management Area (WMA). The WMA designation opens much of Camp Beauregard to hunting, fishing, hiking and other types of outdoor recreation. During 2005-06, nearly 3,000 outdoor recreation visits were recorded there.

To improve fishing opportunity on Camp Beauregard, LANG has worked with LDWF to renovate two small lakes. These lakes were limed, fertilized and stocked with largemouth bass (*Micropterus salmoides*) and forage fish. Boat ramps have been constructed, and these lakes have become popular fishing spots.

Military and public safety considerations limit public access to some LANG facilities. However, even restricted use sites such as Camp Minden (13,000 acres in Webster Parish) provide recreational opportunities. Each year, LANG, in cooperation with the National Wild Turkey Federation's Wheelin' Sportsman Program

Camp Beauregard Wildlife Management Area

The area's first function is as a military reservation. Therefore, special regulations apply to the use of Camp Beauregard WMA. Daily military clearance is required for all recreational users. An annual permit is required with checking in and out of self-clearing stations on a daily basis. All game harvested must be reported on a self-clearing checkout permit. Registration for the use of a self-clearing permit may be obtained at Range Central Building (318/641-3355 or 318/641-3365).

All or portions of the area may be closed daily due to military activities. Retriever training is allowed on selected portions of the WMA. Limited camping is allowed by reservation only. Call 318/641-3365 for questions about camping.

General information is available from the Louisiana Department of Wildlife and Fisheries Region III Office, 1995 Shreveport Highway, Pineville, LA 71360, 318/487-5885.

Photo courtesy of LANG

Kevin Chapman at a wetland restoration project on one of the LANG bases.

and LDWF, hosts a deer hunt for disabled hunters on Camp Minden. Up to 50 hunters participate and hunt from portable blinds set up by National Wild Turkey Federation and LANG volunteers.

Integration of natural resource needs with those of the military mission require careful planning and monitoring. LANG has conducted comprehensive evaluations of the soil and vegetative characteristics of its installations. These evaluations are used to target certain military activities to the sites most suited to the activity. For instance, heavy equipment use may be limited on wet sites subject to rutting or soils subject to excessive erosion. In other instances, these evaluations can be used to direct forest management activities to enhance training opportunities by creating open woodland conditions or development of corridors for movement of equipment and personnel.

Although it may not be readily apparent, wise stewardship of LANG natural resources contributes to the goal of maintaining military readiness. It is not difficult to envision the practical problems that would arise when in the absence of sound natural resource management, gully erosion, and dense, unhealthy forests occur across a training site.

In contrast, training sites with wise, sustainable management of the wildlife, forests, soils and water complement military training activities and ensure the long-term viability of them. Additionally, well-managed natural resources and associated recreation contribute to the quality of life for both military personnel and civilians.

Not surprisingly, LANG's Natural Resource Program has received national recognition. In 1998 and 2000, Camp Beauregard won the Secretary of Defense Environmental Security Award and was runner-up in 2004. The program will continue to progress and adapt as the natural resources and military missions dictate. Future plans include restocking of wild turkeys on Camp Minden, development of waterfowl habitat and improved recreational opportunities.

Fred Kimmel is the Upland Game Program Leader for LDWF. He has been with the department for 20 years.

Photo by Barbara Wood

LAKE MARTIN

The Jewel of March

Story by
Pete COOPER Jr.

One of the biggest aggravations I had after being displaced from the Delta by Hurricane Katrina was finding decent fishing spots near my new home south of Lafayette. I tried Fausse Pointe and caught some small bass and a nice channel cat on fly rod poppers. A couple of new buddies and I prospected some canals in the Rockefeller Refuge for reds while using dead shrimp on bottom, and never had a sniff! The one time I speculated Spanish Lake in my canoe, I was repulsed by its grungy water. Fact is, that seemed to be at least part of the problem everywhere I fished in the area—even around the Hammock at Cypremort Point.

Then I discovered Lake Martin.

Oh, you've never heard of it? Neither had I until a neighbor mentioned it last winter. Since it was fairly close to home and, he said, fishable from my canoe, I decided to check it out. On that lovely January afternoon—warm, bright, and calm—I didn't catch doodley squat! However, I found the lake to be quite clear and somewhat similar to Lake Bistineau, a life-long favorite, so there was promise.

Unfortunately, neither attribute affected the outcome of my second trip in mid-February. That day a conversation with one of the lake's "regulars" revealed that the bass had recently moved into their aggressive pre-spawn mode, and some very respectable ones had been caught during the previous week. Seeking to tally one of those prizes on a fly and ignoring the fact that doing so is a rare and notable feat hereabouts, I was skunked again. However, during the first week of March, I made a good hit on some nice sac-a-lait. One of them was the largest I had ever taken on a fly, and on a quick follow-up trip, I caught and then released a 20-inch largemouth that would have assuredly weighed over five pounds—a rare fly-caught prize.

This small, south Louisiana lake offers big action for winter fishing.

Photo courtesy of Pete Cooper Jr.

The flats around Lake Martin's perimeter are both scenic and productive. March is spawning time for Lake Martin's sac-a-lait. At that time, they move into very shallow water and become susceptible to sinking flies.

Throughout March the lake continued to give up some nice sac-a-lait and bass, the latter falling mainly to poppers. Toward the end of the month on a calm, dreary afternoon I encountered an insect hatch of some sort that was being appreciated by a bunch of nice-sized bluegills. I had forgotten how much fun they are, both for catching and for eating.

But that aside, by then I had become quite attached to Lake Martin. I am certainly glad this article covers March, because for most of the following year, I couldn't catch a fish out of that lake on a dare!

That could very well have had something to do with me, but during March, Lake Martin is a real jewel. It is a natural, bowl-shaped lake that covers a square-mile or so. Its rim is a flat of sorts, varying in width and depth and pocked with button-brush, blow-downs, stumps of ancient cypresses and green timber. Any one of those forms of

Parts of Lake Martin, especially the swampy area along its southern end, serve as a rookery for egrets, herons and roseate spoonbills, to name a few. Wood ducks and occasionally tree ducks also nest here, and migratory songbirds are present in season. Parts of the lake's basin have therefore been established as a wildlife refuge, and outdoor photographers and naturalists regularly visit the lake to observe its birdlife.

Then there are all the alligators –BIG ALLIGATORS– and the silver carp that were introduced into the lake in an attempt to control the submergent vegetation. This fish will "tail up" for you in the shallows just like redfish, and if you get too close to one and spook it, its wake can set your canoe to rockin'! They can apparently surpass 30 pounds in weight, and contrary to what you might have heard, they will strike an artificial lure!

No, I haven't actually caught one, though once I did hook a 4-footer on a popper and work it to the side of my canoe a couple of times. Toward the end of the contest, I was giving serious thought on how to best slide it aboard, but I finally decided I didn't want the beast in the canoe with me and gave it the popper. They do favor tarpon, and I am told they jump—both free and when hooked. Be aware!

Photos in sidebar by Barbara Wood

structure can be productive on a given day, but it is best to concentrate on a particular type if it gives up a fish or two early on. As a general rule, work those in water between two and three feet deep.

Bass and sac-a-lait are the lake's premiere species during much of March, and the bluegills begin to appear in late-March and bite well into April. But rumor has it that the lake also sports a good population of redear sunfish. Sadly, I missed out on their April "gatherings" on the flats last spring, but I intend to make up for that this year. It's definitely not a winter thing, but it's something to remember for later on!

Although I did catch several bass and sac-a-lait on mini-sized tube jigs suspended around one and a half feet beneath a small cylindrical float, most of them, including the largest, and all of the bluegills fell to flies. Almost all of the fly-caught sac-a-lait, and the biggest bass, ate a yellow size 8 marabou Muddler Minnow, though any slow-sinking pattern like a lightly-weighted Clouser Minnow about 1-1/2 inches long should work just fine. Have some in light colors and some in dark, but bring plenty because you will assuredly lose some to the submerged structure.

That presents the only drawback I've seen to fishing Lake Martin: there are so many visible indications of fishable structure below that there's no way to cover more than a small percentage of it. Add to that the logs, limbs and stumps that you cannot see beneath the water's surface, and the lake can present a very intimidating face. You'll find yourself asking, "Where do I begin?!" My only suggestion is to fish the side of the lake that is sheltered from the breeze. As I implied earlier, paddle-craft and small flatboats are entirely adequate here in reasonable weather.

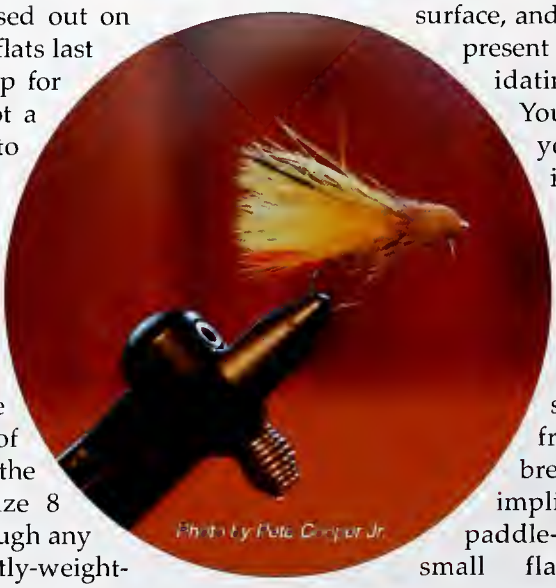


Photo by Pete Cooper Jr.

Cooper (previous page) attributes his success at Lake Martin last March to the unassuming fly at right—a yellow, size 8 marabou Muddler Minnow.

One more note on flies. After the sac-a-lait bite slowed a bit, I began prospecting for bass with poppers—specifically size 4 poppers with long feather tails. Then the bluegills made their appearance, greatly preferring a yellow size 10 sponge spider. When they showed up, it was right now and I had better be ready for them! Therefore it was expedient to have two outfits readily available, one rigged with the "bass bug" and the other with the sponge spider. That way I could quickly adapt to either opportunity.

While any outfit in the 5-to-7-weight range or thereabouts should suffice here, shorter rods are better, as the casts need not be long, and the lighter sizes give a better feel for detecting the often subtle strikes that are typical of the time. Still, with the potential for a prize largemouth being very good now, I would recommend nothing lighter than a 12-pound class tippet—fluorocarbon with the sinking flies, mono with the floaters.

And I must expound a bit on those "bluegill appearances." In every case they were announced by small, insignificant-looking rings on the water's surface and in relatively open water as well as beneath the limbs of trees. A quick cast to the center of a "ring" usually brought a strike; a slight error in a cast's deflection brought naught. It was just like sight-fishing, and it was wonderful fun!

Access to the lake is gained by turning west off of LA 31 onto the Lake Martin Road a bit less than three miles south of Breaux Bridge. Concrete back-down ramps, several spots to slide a canoe into the water, and a large parking area are available at the end of the road. You can't miss them.

If you notice a white Dakota with a bunch of fish decals and "Fly Guy" stuck onto it, that'll mean I'm out there somewhere in my canoe, and if it's March, I'll probably be catching a few, too! If it isn't March, well, who knows. But by then I may have learned how to catch them at other times of the year. In any case, Lake Martin has filled a big void in my fishing life very nicely!

Recognized as a pioneer of saltwater fly-fishing in Louisiana, Pete Cooper Jr. is the author of Fly Fishing the Louisiana Coast. He is a member of the Louisiana Sportsman's Hall of Fame and is a regular contributor to Louisiana Conservationist.

For a fairly small lake, Lake Martin annually produces a respectable number of creditable bass and sac-a-lait, both of which are prone to strike flies. In fact, during March and April, Lake Martin's bass readily take size 4 poppers worked tight against woody structure. Of course, even non-fly fishermen will have a good time at Lake Martin.

Photo by Pete Cooper Jr.

LSU'S FEATHERED LIBRARY

Photo by Joel Courtney

Part1: The Formative Years

Photos by Joel Courtney

Story by
James M. BISHOP, Ph. D.

Few people think of a dead bird as a book, or a collection of dead birds as a library. This is no surprise: dead birds have no language. There is no sentence structure, nor is there even an alphabet. For the most part, relatively few dead birds could be considered as books; most die from natural causes and then decay, or are killed by predators to become part of the food chain. There are, however, special institutions where dead birds, like books in libraries, are arranged by "subject" and can be "read" by inquiring minds for the information they provide. Without question, birds in these institutions have stories to tell.

It may, however, come as a surprise that one of the world's foremost such institutions is located on the Louisiana State University (LSU) campus in Foster Hall. Behind closed doors and generally not accessible to the public, hundreds of special cabinets store tens of thousands of bird specimens. In sheer size, the collection ranks among the global top 12, but numbers alone do little justice to the collection's immeasurable importance.

Without exhaustive associated data, a dead bird is of little use, and its "story" is short and sketchy. With extensive data, however, the specimen represents a story that contributes to the big picture of the species' life history. The global numerical ranking plus the exhaustive data per specimen makes LSU's bird holdings one of the world's truly outstanding collections. A well-documented bird specimen is reference material, and irrespective of how common it is, whether found dead on the road or collected for a specific purpose, for the scientific community this specimen provides unique information in a moment in time and can never be duplicated.

To be sure, when I speak of a dead bird, I do not really mean an entire dead bird. Since before Audubon's sojourns in America's primeval forests in the early 1800s, collectors have devised ways to prepare bird specimens so that they last indefinitely and look fairly natural, without necessarily mounting them in life-like positions. Most museum specimens consist of the bird's skin, plus most of the skull, and part of the leg and wing bones, stuffed and laid on its back, with wings folded, as though asleep. This is not a natural position for birds, but it suits museum curators, who must store large numbers in limited space. Birds prepared in this manner are also easier to handle for detailed examination.

SPECIMENS WITHOUT DATA

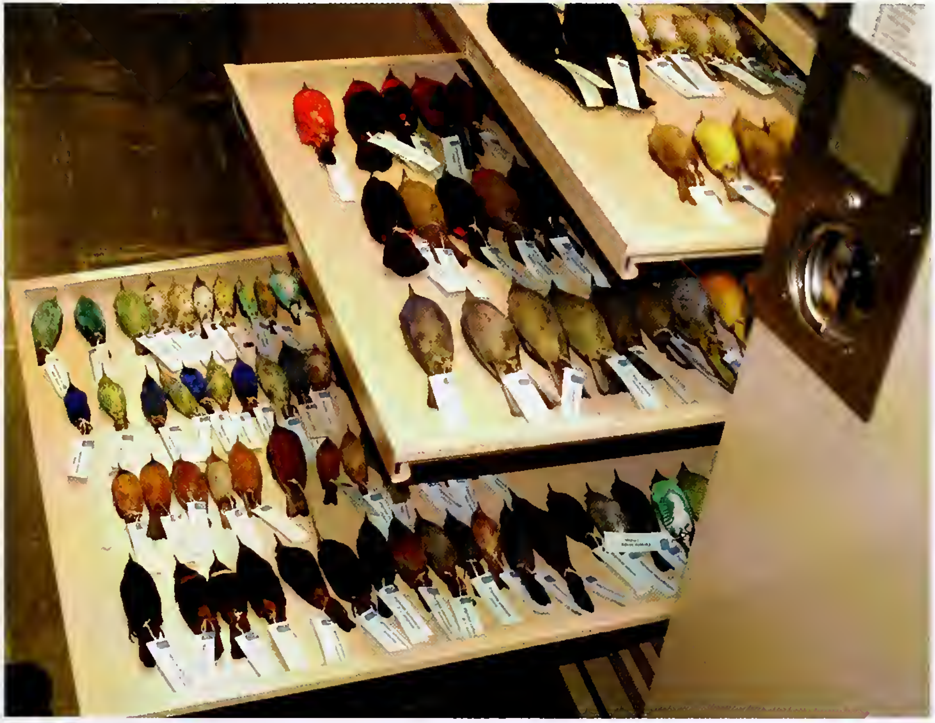
During the heyday of exploration and discovery in the late 18th and early 19th centuries, museums and private collectors paid scant attention to exactly where a bird came from, when it was collected or the type of habitat in which it was collected. Back then, the primary objective was to find species new to science and to acquire as many different species as possible. This practice or approach is often referred to as "stamp collecting" (no malice intended to philatelists). With the establishment of the world's great museums such as the British Museum (Natural History), France's Muséum national d'Histoire naturelle, Germany's Museum für Naturkunde der Humbolt-Universität, Denmark's Zoologisk Museum, Netherlands' Nationaal Natuurhistorisch Museum, the U.S. National Museum (Smithsonian Institution), and the American Museum of Natural History, more attention was paid to specimen documentation, but even then much potential useful information was not recorded. Many specimens collected during the Georgian and Victorian eras of the 1800s and early 1900s have so few data that the specimens are of little use except for morphometric comparisons related to taxonomy, such as bill shape, arrangement of toes, the number of tail and primary wing feathers, etc.

In researching their 1997 book *A Field Guide to Warblers of North America*

PART 1 OF A 2-PART SERIES

Look for Part 2, "The Collection as a Resource," in the Spring 2007 Louisiana Conservationist.

Photo by Joel Courtney



The Bird Library at LSU's Museum of Natural Science is a world-class collection housing hundreds of cabinets that contain tens of thousands of bird specimens.

(Houghton Mifflin), Dunn and Garrett examined over 10,000 museum specimens, and were "struck by the inadequacy of specimen collections…" They stated, "Label data rarely provided information sufficient to determine age or sex (gonad description or measurement, skull ossification); many prolific collectors from the late 1800s and early 1900s, in fact, appear to have determined the sex of their specimens by plumage rather than by examining the gonads, resulting in a high rate of 'mis-sexing'…" Even with insufficient data, however, such specimens provide measurements for physical features. If not recorded at the time of collection and during preparation, data such as the following are forever lost:

- colors of bare parts (iris, bill, feet, toes, and any bare skin)
- fresh weight
- diet (stomach contents)
- breeding condition (sex and size of gonads)
- age based on skull ossification or presence of Bursa of Fabricius
- amount of fat
- whether the oviduct was straight or convoluted (the latter condition being an indication of egg laying)
- general state of health (muscle or tissue condition, presence of disease)
- presence and type of parasites
- ecological setting and elevation
- associated species
- behavior
- method of collection

Additionally, a tape recording of a bird's call may be made and archived, and cross-referenced to the specimen. At LSU, as well as at other institutions, these data are routinely recorded, making such specimens infinitely more useful. Data-rich specimens are thus more meaningful than those collected during the heyday of discovery. Molt is also recorded, which makes this aspect of their biology far more accessible. To maximize the value of each specimen, tissue samples and stomach contents are usually saved during specimen preparation. Dunn and Garrett, in their warbler book, "salute those institutions such as the Museum of Natural Science at Louisiana State University, Baton Rouge, which have amassed extensive collections of modern specimens with exhaustive label data and careful gonadal sexing" (p. 30).

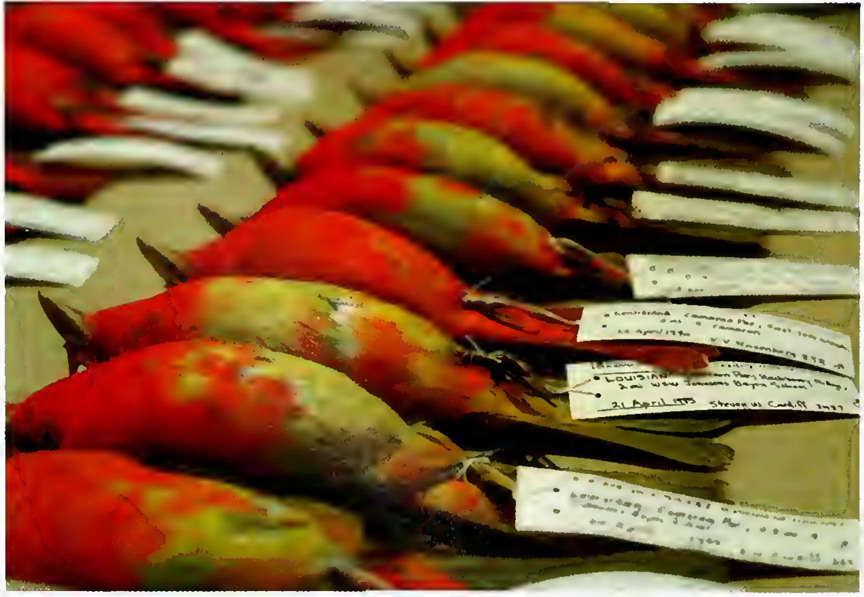
Lowery and LSU

By world standards, LSU's bird collection got a very late start. Most of the world's avifauna had been fully described, and the consensus was that the great days of exploration, discovery and collecting were over. For the most part, this consensus was accurate. There were no new continents to be discovered, no large islands to be explored (except for New Guinea and Mindanao in the Philippines), nor any extensive unknown regions. In the 1930s, much of the world was in deep recession, so there were far more pressing matters to consider than starting a collection of birds.

Fortunately for LSU, George H. Lowery Jr. came along. He finished his undergraduate degree at LSU, joined the Zoology

A row of scarlet tanagers (*Piranga olivacea*) displays the wide range of color variation within a species. These variations depend on numerous factors including, age, geographic location and diet.

Photo by Joel Courtney



Department as an instructor, founded the Museum of Zoology, and was appointed Assistant Curator, all in 1936. With the willing and enthusiastic support of the then head of the department, William H. Gates, and a strong sense of purpose and dedication, Lowery set about documenting information on Louisiana's birds, while simultaneously developing the collection. Six birds, previously used for teaching purposes, formed the nucleus of the collection.

The first of these birds to be catalogued was a yellow-billed cuckoo, LSU Museum of Zoology (LSUMZ No. 1), followed in sequence by a Kentucky warbler, great crested flycatcher, red-eyed vireo, prothonotary warbler, and a summer tanager (LSUMZ No. 6). The initial objective was to establish a comprehensive collection of Louisiana specimens that would eventually serve as the basis for a book. A combination of fortuitous circumstances, coupled with Dr. Lowery's contagious enthusiasm for birds and birding, led to his developing close associations with some of the best field personnel of the time. Collecting trips were conducted throughout Louisiana, in adjacent states and further afield. Inevitably, these expeditions led to the southwest toward Mexico, where bird diversity increased and ornithological investigations regularly yielded new discoveries. As Dr. Lowery's reputation grew in the field of ornithology, so too did the graduate program at LSU, and students often focused their research talents on the abundant and diverse birdlife in Middle America.

The museum soon outgrew its allocated space in Audubon Hall. In 1955 Foster Hall, formerly the student union and cafeteria, became available, and this building provided a new home for the rapidly growing collection. Dr. Lowery requested the entire building for the museum, but the university could not justify allocating so much space that was not immediately necessary. This turned out to be a crucial blow to the museum's development that continues to haunt it today, but no one then had any idea of just how rapidly the collections would grow. In addition to birds, there were collections of fishes, amphibians, reptiles, mammals and, most recently, frozen tissues. With the addition of public exhibits and an expanded research program, the institution's name was changed to the more comprehensive LSU Museum of Natural Science (MNS).

Also in 1955, Lowery had gathered enough material and information on the birds of Louisiana to complete the initial edition of his book, *Louisiana Birds*, published by the LSU Press. At that time, the

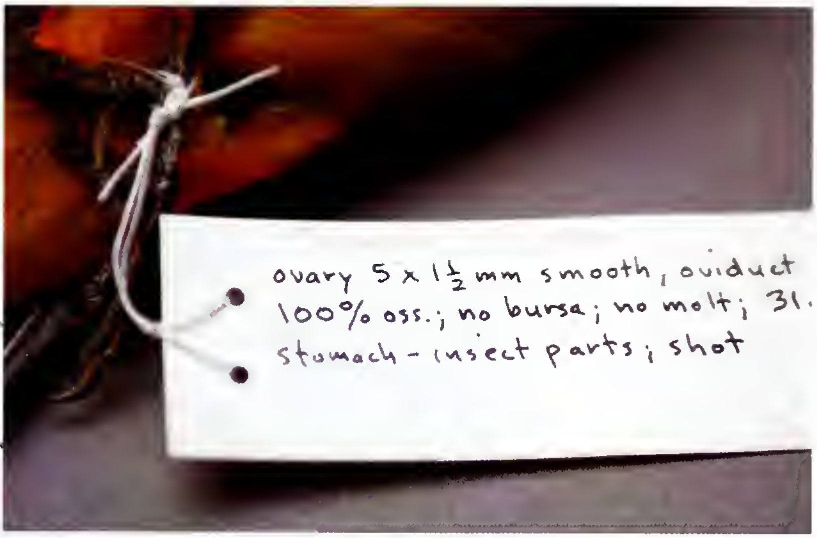


Photo by Joel Courtney

ovary 5 x 1½ mm smooth, oviduct
100% oss.; no bursa; no molt; 31.
stomach - insect parts; shot

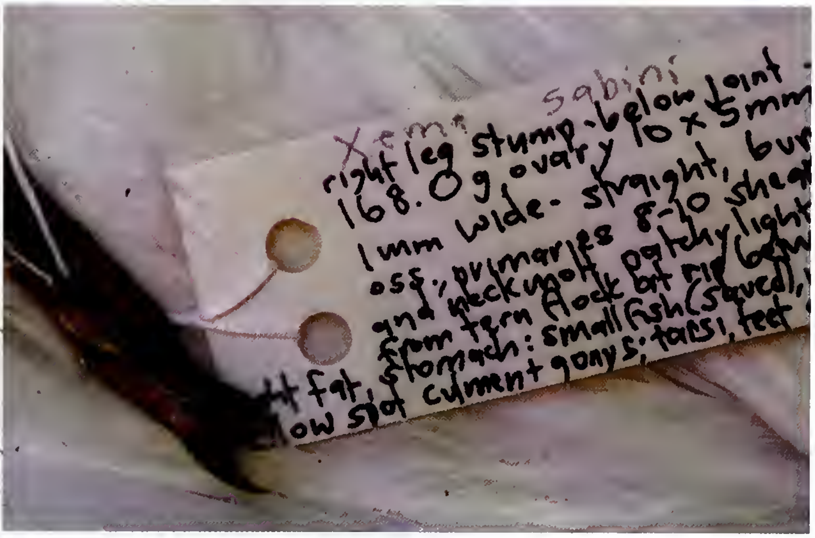


Photo by Joel Courtney

Xema sabini
right leg stump - below joint
168.0 g ovary 10 x 5mm
1mm wide - straight, bur
oss.; primaries 8-10 shea
and neck molt patchy light
from tern flock at rip (bet
fat, stomach: small fish (saved),
ow spot culmen + gonys; tarsi, feet

Examples of label data: Note the extensive label data recorded on the bottom label which accompanies a specimen of Sabine's gull (*Xema sabini*).

list of state bird species numbered 377, and the number of bird specimens in the Museum of Zoology was 25,000. The third edition of *Louisiana Birds* was published in 1974, by which time the state's documented bird species had risen to 411, and the museum's holdings of bird specimens had increased to 78,000. The close association of the number of bird species recorded in Louisiana and the number of specimens in the museum should not be interpreted as if they were correlated.

O'NEILL'S CONTRIBUTIONS

Although the museum's collection had grown to national prominence, a watershed event occurred in 1961 that would eventually result in the museum's achieving global importance, decades before the university's recent Flagship Agenda. That year, John P. O'Neill, a student at the University of Oklahoma, spent the summer in Peru, where he made a small collection of bird specimens. The University of Oklahoma had a bird collection, but George M. Sutton, the university's eminent ornithologist, suggested that the specimens would find a more useful home in the growing collection of tropical birds at LSU. Upon seeing the birds that John had collected, Dr. Lowery became so excited that he strongly encouraged John to return to Peru the following year. It so happened that several of O'Neill's specimens belonged to families of birds not previously represented in LSU's collection. Because Lowery was interested in acquiring representatives of all living families of birds for research as well as for teaching, he secured private financial support for John's next trip. This serendipitous conjunction of events set the museum and O'Neill, who obtained his M.Sc. and Ph.D. under Lowery's direction, on a course that after 44 years, continues to this day.

A plate of lowland toucans from O'Neill's book on the birds of Peru.

Plate courtesy of John P. O'Neill

As it turned out, vast regions of South America, and other areas as well, were still essentially blank on the ornithological map. Peru has the second largest list of bird species of any country in the world, surpassed only by Colombia, and as we now know in hindsight, more species of birds then unknown to science. John could not have picked a more exciting country for ornithological investigations. Peru is extremely complex geologically speaking, with many major habitats: these include coast; desert; tropical, subtropical and temperate forests; white-sand forest; and alpine meadows, to name only a few. Cloud forests, many isolated for thousands of years, have been the source of many bird species new to science. John Morony, a former Collection Manager of Birds at LSU, once commented that the invention of nylon allowed the development of mist-nets, which capture birds often overlooked or difficult to otherwise obtain. The invention of nylon also led to the production of plastic sheeting, which revolutionized protective gear and clothing, and allowed LSU museum personnel to get to places that major museums in the past had avoided.

John O'Neill, shown here on an expedition in Northern Peru.

Photo courtesy of John P. O'Neill

Peru's cloud forests are usually on the eastern slopes of the high Andes where cold, rainy conditions dominate. Plastic allowed researchers to be relatively comfortable in the cold, wet, miserable climate that characterize cloud forests. A small team of researchers and field personnel could reach these difficult areas without extensive and expensive backup support.

Since John's initial trip to Peru, LSU museum personnel have discovered or shared the discovery of nearly half of the 39 species of new birds found in Peru. John has been responsible for discovering or sharing in the discovery of no fewer than 13, more than any other living ornithologist. His initial discovery occurred in 1963, when he obtained a single specimen of what would become known as the orange-throated tanager, a colorful bird with a black back, blue wings, a buffy breast and an orange throat. Other birds new to science have been extremely secretive in their habits, such as the elusive antpitta (*Grallaria eludens*). Others are very similar to other species and overlooked, such as the orange-eyed flycatcher). Still others exist in places never before visited by ornithologists. This latter category includes some spectacular finds such as the long-whiskered owlet, the scarlet-banded-barbet, and the Amazonian parrotlet, whose discovery served as the basis of Don Stap's award-winning book *A Parrot Without a Name, The Search for the Last Unknown Birds on Earth* (Alfred A. Knopf,

Among many species once thought to be extinct, the white-winged guan (*Penelope albipennis*) was "rediscovered" by museum personnel. The specimen below is now housed at the LSUMNS collection.

1990). The forests of Peru continue to yield new species of birds, as was demonstrated in the summer of 2004, when LSU researcher Dan Lane collected yet another species previously unknown to science (still undescribed as of this article), and so different from any known species that only its DNA will allow assignment to the correct bird family. Every year since 1961 with the exception of one, an LSU team usually headed by John has returned to Peru, visiting areas previously unexplored or little known.

In addition to birds new to science, John and other LSU researchers have rediscovered birds considered extinct or whose existence was known by one or only a few specimens. Perhaps the most famous rediscovery was the location of a small population of white-winged guans in 1977, exactly 100 years following the last sighting of the species by a scientist. In 2001, Dan Lane and others from LSU rediscovered the white-masked antbird in Peru's white-sand forests. This species had been described from a single specimen in 1937, and many ornithologists considered it to be some sort of hybrid. Scott Weidensaul seriously considered a quest for the white-masked antbird in writing his book *The Ghost with Trembling Wings* (North Point Press, 2002), but chose instead Brazil's cone-billed tanager as the object of his search because so many had failed to find the white-masked antbird. Many other rediscoveries by museum personnel have provided insights into the habitat and behavioral biology of the "lost" species as nothing had been recorded about their lifestyles when initially collected.

As exciting as these discoveries are, they are really by-products of routine investigations. Expeditions are not planned to find new species or rediscover lost species. The primary purposes of these expeditions are to survey bird populations in places that are either unexplored or little known, and to obtain specimens critical for research

PART 1 OF A 2-PART SERIES

Look for Part 2, "The Collection as a Resource," in the Spring 2007 Louisiana Conservationist.

Steve Cardiff, Collections Manager for Birds and Mammals at the LSU Museum of Natural Science, displays one of the trays holding birds discovered by LSU museum personnel.

Photo by Joel Courtney

projects at the museum. Finding species regarded as common may be more important than finding rare species. Sometimes these surveys fail to find "expected" species in certain areas, or they may find "unexpected" species to be quite common in places where they were not anticipated. These expeditions obtain material essential to a graduate student's or professor's question-oriented research project while also filling in the knowledge gaps that are so important in completing the species' life history. Never does an expedition fail to reveal something new, but rarely are the discoveries headline news. In short, the museum's work is much like the old adage defining genius: 99 percent perspiration and one percent inspiration. In fact, for the museum, it would be 99.99 percent perspiration and 0.01 percent discovery or rediscovery.

At one of LSUMNS's Special Saturday family programs on birds, children learned about beak and nest adaptations and made homemade bird feeders. Visit the LSUMNS Web site for more information on educational opportunities at the museum. (*www.museum.lsu.edu*)

The LSU Museum of Natural Science was founded in 1936, when its first director, George H. Lowery, Jr., assembled a few study specimens of birds in a classroom in Audubon Hall. Since its move to Murphy J. Foster Hall in 1950, the museum has continued to expand and is currently one of the nation's largest natural history museums, with holdings of over 2.5 million specimens. As the only comprehensive research museum in the south-central United States, the LSU Museum of Natural Science fulfills a variety of scientific and educational roles, including generation of new knowledge in the fields of zoology, archaeology and paleontology through scholarly research, based primarily on natural history collections, collection and preservation of research specimens as a resource for study of the earth's natural history, education of graduate and undergraduate students in academic areas that are most effectively taught in the museum setting, education of the public by means of exhibits and lecture programs, and assistance to local citizens, wildlife officials and forensic specialists through identification and consultation services.

The museum's exhibit area is open to the public (free of charge) between the hours of 8:00 AM and 4:00 PM Monday through Friday, holidays excepted. For additional information about special programs and exhibits call 225/578-3080 or e-mail *mused@lsu.edu*.

THE COLLECTION AS A RESOURCE

Look for Part 2 of "LSU's Feathered Library" in the Spring 2007 issue of *Louisiana Conservationist* where you'll find out what all this perspiration and discovery mean for both the scientific community and the world at large. You'll learn more about specimen preparation and the many reasons why LSU's collection is not only impressive, but important as well.

A native of Hammond, James M. Bishop received his Ph.D. in marine sciences from Louisiana State University. Based in Kuwait as a fisheries biologist since 1983, vacation trips to Asia, Africa and Europe are relatively convenient and allow him to maintain his casual interest in birding. He is a research associate of LSUMNS.

50 YEARS of Wildlife Disease Study

Story and Photos by
David MORELAND

Above, left to right: For the past five years, LDWF biologists have been collecting brain stem tissue from white-tailed deer for CWD testing. Emile LeBlanc and Larry Savage are preparing the samples for shipment to the SCWDS. The SCWDS staff is conducting research to evaluate the ability of the highly pathogenic avian influenza virus (HPAI HSN1) to infect waterfowl. Studies using redheads, blue-winged teal, wood ducks, mallards and Northern pintails found that wood ducks were the only species to exhibit morbidity or mortality. LDWF biologists are collecting samples from waterfowl and shorebirds during 2006 for avian influenza testing.

In 1957 a unique partnership was developed between the game and fish agencies in the southeast United States and wildlife disease researchers at the University of Georgia. At that time a disease was causing unexplained mortality among deer herds in the northeast and southeast United States, and this partnership was originally established to investigate and study deer diseases. The mysterious disease was referred to as "Killer-X" and was of special concern for biologists since most states were involved in deer restoration projects. The 1950s and early 60s were the years for peak deer restoration work in Louisiana. Joe Herring was a biologist with the Louisiana Wildlife and Fisheries Commission and served on the Steering Committee that formed this partnership. While Chief of the Game Division, Mr. Herring served as chairman of the Steering Committee.

Originally called the Southeastern Cooperative Deer Disease Study, the partnership changed its name in 1961 to the Southeastern Cooperative Wildlife Disease Study (SCWDS). Since then, SCWDS has developed into a premier multi-purpose wildlife disease research and service organization. SCWDS works in partnership with wildlife managers and game and fish organizations and agencies, at both state and federal levels, to investigate wildlife disease issues and problems. They help bridge the gap with wildlife issues that may cause concern for domestic animals and human health.

2007 marks the 50th anniversary of SCWDS. Located in Athens, Ga., SCWDS is supported with funds provided by the southeastern states and from various federal agencies. Each state establishes an annual contract with SCWDS and in return for this monetary support, SCWDS provides their expertise with wildlife disease diagnostic and research services. The southeastern states include Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, Virginia and West Virginia. Kansas, Ohio and Puerto Rico have also become involved with SCWDS in order to obtain wildlife disease services for their states. The reputation SCWDS has for excellence in wildlife disease research extends beyond the borders of the U.S.

Most wildlife disease problems probably go undetected by hunters. Animals become sick, and if they are unable to recover, their remains simply decompose or are scavenged by other wildlife. Although they may not always recognize it, hunters are generally the ones to first encounter wildlife and disease problems. It is not uncommon for hunters to find something unusual when processing harvested game. For curious and concerned hunters, these findings often result in a phone call to the local biologist.

One frequent call we receive every deer season involves finding a large worm on the carcass of the deer. Nasal bots are fly larvae that develop in the nasal cavity of a deer after the fly has laid eggs around the nose or mouth of the deer. When fully developed, the larvae exit through the nose of the deer, fall out, burrow in the ground, and emerge as flies. When a hunter kills a deer, the larvae may migrate through the nose on their own or simply fall out on the carcass while the deer is being cleaned. Hunters often call to ask what the worm is and if it is safe to eat the meat. Nasal bots are not harmful to deer and do not present health problems for humans.

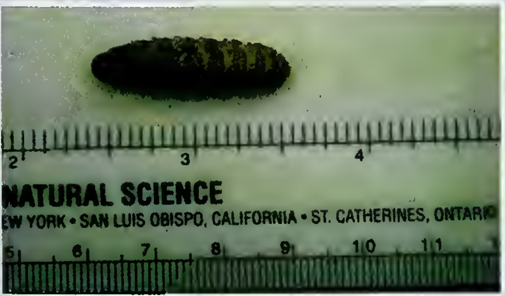
Most deer hunters are aware of the disease known as blue-tongue. This is a hemorrhagic disease of white-tailed deer and is caused by either the epizootic hemorrhagic disease (EHD) virus or the blue tongue (BT) virus. The viruses are transmitted by biting midges. The disease generally occurs in late summer and early fall and the occurrence of it is related to the life cycle of the midge vectors. EHD occurs annually in Louisiana to some degree. Biologists work with clubs and landowners to document the disease in the state. Blood and tissue samples are taken from deer collected during annual herd health investigations. EHD was most likely the Killer-X disease causing the unknown deer mortality in the 50s.

In 2004, tissue and blood samples from a deer in St. Mary Parish were sent to SCWDS for examination. The BTV-1 virus was isolated from this animal. This was the first detection of this serotype in the United States. Further sampling and testing has occurred over the last two years. The test results indicate that BTV-1 is highly localized in the immediate area where the virus was first detected.

The progress made in Louisiana concerning wildlife disease and parasite problems is a direct result of the outstanding leadership and service that SCWDS has provided. SCWDS is in the forefront for chronic wasting disease (CWD) testing in Louisiana along with providing assistance for avian influenza research and monitoring. Both of these diseases have been in the national spotlight. SCWDS has provided their expertise with the wild turkey restoration program, the fur animal program, feral hog issues and migratory birds (ducks, geese and doves).

Field Manual of Wildlife Diseases in the Southeastern United States
Third Edition
William R. Davidson

The SCWDS field manual is used by Louisiana biologists who assist with tissue collection and preliminary assessment of wildlife disease and parasite problems.


NATURAL SCIENCE
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A nasal bot from a white-tailed deer.

Dr. Frank A. Hayes served as Director for SCWDS for the first 30 years. Currently Dr. John Fischer is the director and works closely with the Louisiana Department of Wildlife and Fisheries (LDWF). Drs. Randy Davidson and Victor Nettles produced a field manual concerning wildlife disease problems (*Field Manual of Wildlife Diseases in the Southeastern United States*). This book quickly became a useful management tool for biologists across the southeast. Dr. Davidson recently edited the third edition of this book, which is available from the SCWDS office. Another SCWDS book, *Diseases and Parasites of White-Tailed Deer*, was published in 1981.

I am very much indebted to the staff at SCWDS for their outstanding work and support given to LDWF during my 30-year career. Their efforts have given the wildlife community a better understanding of wildlife disease and parasite problems that are frequently encountered. Because of their work, the unknown Killer-X diseases have names, can be diagnosed, and their impacts to wildlife, domestic livestock and human health can either be reduced or resolved.

Formerly the state's Deer Study Leader, David Moreland now serves as the LDWF Wildlife Administrator. He has been with the department since 1976 and is a frequent contributor to Louisiana Conservationist.

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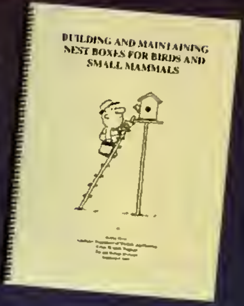
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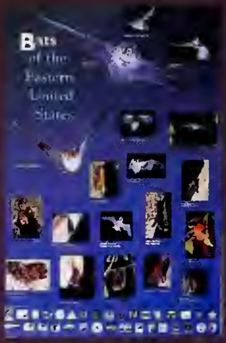

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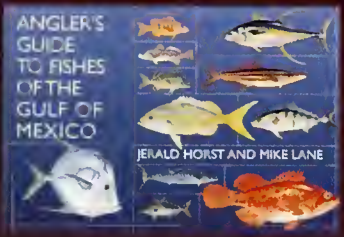
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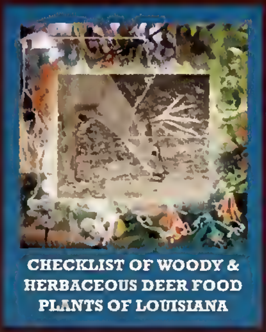
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LDWF OUTDOOR JOURNA

Orphaned Bear Cub Rescued in St. Mary Parish

Louisiana Department of Wildlife and Fisheries personnel rescued an orphaned male black bear cub in St. Mary Parish on Nov. 14 and transported the cub to the Appalachian Bear Rescue (ABR) Center in Tennessee for rehabilitation prior to return to the wild.

Arlen Carter, of Franklin, observed the cub in his hunting area while in a deer stand overlooking a food plot at 8:15 a.m.

"Situations like this are extremely rare and hunters should not assume bear cubs seen without a female nearby are orphans," said LDWF Wildlife Biologist Maria Davidson. "This cub was very small and near starvation, which prompted the decision to capture him. Had he been in good health, he would have been left in the area."

Following the capture, the young bear was then transported to Baton Rouge, given emergency care and nourishment and then transferred to the ABR Center.

ABR has released 78 bears back into the wild without any reported as a nuisance by the public. Their goal is to make sure bears are wary of humans.

Davidson hopes this cub will be ready to return to Louisiana by the spring of 2007 for release in north Louisiana where bear densities are lower.

For more information, contact Maria Davidson at 225/765-2385.

LDWF Stocks Red River with Largemouth Bass

In December 2006, Louisiana Department of Wildlife and Fisheries Inland Fisheries Division personnel stocked a total of approximately 58,000 phase II Florida largemouth bass into the five pools of the Red River.

The Red River Waterways Commission (RRWC) donated $50,000 to the Louisiana Wildlife and Fisheries Foundation, who then purchased the bass. This will mark the sixth consecutive year that RRWC has donated money for this project.

About 11,600 bass per pool were stocked out of the Clarks, Coushatta, Grand Ecore, Fort Buhlow and Broulette landings on the Red River.

For more information, contact Tim Morrison at 225/765-2333.

LDWF Has Role in Avian Flu Monitoring Network

The Louisiana Department of Wildlife and Fisheries (LDWF) is actively involved in an Avian Flu Early Detection Surveillance System to check for this virus in wild waterfowl and shorebirds as part of the U. S. Department of Agriculture's (USDA) avian influenza monitoring network.

LDWF's Avian Flu Early Detection Surveillance System consists of collecting 1,000 waterfowl and shorebird cloacal swabs prior to and during the waterfowl hunting season as part of the broader Mississippi Flyway Avian Flu Surveillance Plan. LDWF has targeted species most likely to mingle with birds from Asia on breeding grounds or migration routes and transport the virus down the Mississippi Flyway to Louisiana.

LDWF has already collected shorebirds and will sample ducks and geese harvested on public hunting areas this fall to collect the swabs. Those swabs are then sent to the Louisiana State University Veterinarian School for testing.

So be prepared, not scared. LDWF would like to again remind the public when handling birds to adhere to the following guidelines:

Do not handle birds that are obviously sick or birds found dead. Wear rubber or disposable latex gloves while handling and cleaning game, wash hands with soap and water or with alcohol-based hand products, and thoroughly clean knives, equipment and surfaces that come in contact with game.

Do not eat, drink or smoke while handling or cleaning birds. Cook all game meat to at least an internal temperature of 155 degrees to kill disease organisms and parasites.

For more information on avian influenza, visit the LDWF's Web site at *www.wlf.louisiana.gov*.

For more information, contact Robert Helm at 225/765-2358 or *rhelm@wlf.louisiana.gov*.

For more information on LDWF programs and events, visit us at

www.wlf.louisiana.gov.

LDWF and LSU Announce Joint Deer Telemetry Project

The Louisiana Department of Wildlife and Fisheries (LDWF) and Louisiana State University (LSU) recently received a $500 donation from Acoustical Specialties and Supply Inc. in Baton Rouge (*www.assi-br.com*) to help purchase equipment and supplies for a new deer telemetry project entitled "Population Characteristics of a White-tailed Deer Herd in a Bottomland Hardwood Forest of South-central Louisiana."

A. Wilbert's Sons L.L.C. is the primary landowner and cooperator and is also providing technical, logistical and housing support for the researchers. Michael J. Chamberlain, Ph.D. representing the LSU School of Renewable Natural Resources, will direct the research.

The primary objectives of the study are to assess range and movements of male and female white-tailed deer, evaluate age and sex-specific harvest rates of white-tailed deer and evaluate survival and causes of death among male and female white-tailed deer.

"This telemetry project will provide valuable information for Louisiana deer and land managers," said LDWF Deer Program Manager Scott Durham. "This information will help refine management plans dedicated toward improving herd health and quality."

Researchers will conduct the study on approximately 40,000 acres of bottomland hardwood forest located west of Baton Rouge and east of the Atchafalaya Basin. The study area is currently leased to more than 30 private hunting clubs, and each club belongs to a cooperative that promotes quality deer management on the property.

White-tailed deer are an important economic and recreational resource across their entire range. In Louisiana and other southeastern states, land managers are choosing strategies geared toward developing quality deer herds.

Because this management regime involves restricting harvest of younger-age-class bucks and increasing the harvest of females to lower herd density, substantial interest exists in understanding the effects of quality deer management on population characteristics.

The South Louisiana Quality Deer Management Association has established a fund to accept tax deductible donations to the project.

For more information, contact Scott Durham at 225/765-2351.

Governor Blanco Names Bryant Hammett as LDWF Secretary

Gov. Kathleen Babineaux Blanco has appointed Bryant Hammett as the new secretary of the Louisiana Department of Wildlife and Fisheries. Hammett, a former member of the Louisiana House of Representatives, joined the Blanco recovery team as the head of state and local government infrastructure in July.

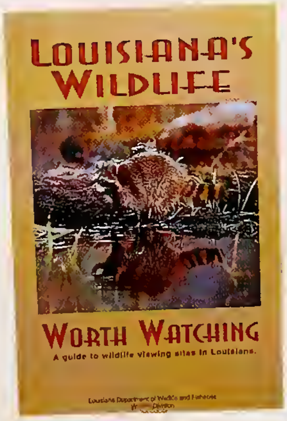
In July, Hammett joined Gov. Blanco's disaster recovery team and led efforts to restore state and local government infrastructure following Hurricanes Katrina and Rita. He represented Concordia, Tensas, Madison and East Carroll parishes in the state legislature and served on the Natural Resources Committee, the Ways and Means Committee and is a former Chairman of the Louisiana House of Representatives' Rural Caucus in Louisiana.

Hammett is a civil engineer, registered professional environmental engineer and registered professional surveyor. He has operated an engineering firm in Concordia Parish for 22 years.

Janice Lansing, who is serving in the interim role since the departure of the secretary, will resume her previous position as undersecretary of the Office of Management and Finance.

For more information, contact LDWF Press Secretary Bo Boehringer at 225/765-5115.

Louisiana's Wildlife Worth Watching Book Now On Sale



***Louisiana's Wildlife Worth Watching* is a guide to wildlife viewing in Louisiana. Its 114 pages include color photos and detailed directions to sites. Previously sold for $5 each, these books have been drastically reduced in price. Now you can get 2 for $5 or one for only $3. Use the order form on page 30 or call 225/ 765-2918 to get your copy today... before they're gone for good!**

AGENTS OF Change

the evolving role of wildlife and fisheries enforcement agents

LOGT AND LDWF ENFORCEMENT: PARTNERS VS. CRIME

By Lt. Col. Keith LaCaze,
Asst. Chief of Law Enforcement

Just as conservation law enforcement in Louisiana has evolved over the years, so has poaching. Wildlife enforcement professionals who have been around a while like to think that common violations of years ago (such as night hunting, closed season hunting and baiting waterfowl) are not as prevalent today as they were 30 years ago. Citation and arrest figures for these offenses support that observation. In part that reduction has been brought about by a strong law enforcement effort focused on those offenses.

But better training, equipment and communications at the enforcement ground level are also responsible for making agents more effective in the fight. Prosecution, stiff sentences, publicity of heavier fines and penalties, and restitution fees for illegally taken fish and wildlife have enhanced the deterrent factor and made more than one would-be poacher think about the consequences of crime.

But poaching, or the violation of fish and wildlife laws, is still occurring today. It has become more sophisticated in response to our improved ability to thwart offenders. Increasingly, today's poaching is a private land trespass issue. The trespassing poacher is the number one problem for many landowners and hunting leases. Additionally, over bagging and taking wildlife in excess of season and daily limits are still modern day concerns for conservation law enforcement.

Commercialization of fish and wildlife are also very prevalent modern day offenses, and they go beyond the ones of earlier, simpler times when a poacher sold a deer, a pair of ducks or a few crappie in the neighborhood. The commercial offenses of the 21st century involve the theft of valuable resources such as oysters or alligators from privately held leases or habitats managed to produce a livelihood for the lease holder or land owner. These are major crimes involving big money and big impacts on fish and wildlife.

Our loyal and constant partner in the battle to protect fish and wildlife has been Louisiana Operation Game Thief, Inc. (LOGT). Since its modest beginning in July of 1984, LOGT has become one of the most prestigious conservation organizations in Louisiana. Its members are private citizens from around the state. They are avid sportsmen with a strong commitment to wildlife resource protection.

The primary mission of LOGT is to provide cash rewards for information leading to the apprehension of wildlife violators. Rewards range from a minimum of $100 for a small game violation to a maximum of $1,000. The minimum for big game offenses and other more serious violations is $300. The funds for the reward payments are derived from donations and fundraising efforts by the members. LOGT members have always been resourceful and innovative in fund raising. One of the early donations secured by the first LOGT President, Marc Dupuy Jr. of Marksville, was a $1,000 check from then Governor Edwin W. Edwards. Gov. Edwards had pledged to personally underwrite the first $1,000 reward paid. When that reward was paid in July of 1985 for information leading to the arrest of seven people on 19 counts of illegal sales of game meat, Mr. Dupuy knocked on the governor's door seeking fulfillment of the promise. Edwards handed over the check.

Since then, LOGT has raised money through raffles, donations from major timber and land companies, associate memberships and other wildlife organizations, including an agreement with the Louisiana Chapter of the National Wild Turkey Federation which provides a matching reward agreement for wild turkey violations.

Both state and federal wildlife enforcement agents support LOGT. Additionally, the Louisiana Wildlife Agents Association (LWAA) has supported LOGT through donations. U. S. Fish and Wildlife Service agents, particularly Special Agent Phillip Siragusa of Lafayette, have raised thousands of dollars through innovative sentencing in federal courts. In numerous cases, plea agreements have required offenders to make cash donations to LOGT as a condition of probation. These plea agreements are particularly agreeable to law enforcement, since they put the cost of the program on the backs of offenders.

In recent years LOGT has benefited from legislation which provides for funding for crime stopper organizations around the state. Act 50 of the 2002 Regular Session of the Louisiana Legislature authorizes Louisiana courts to add an additional $2 cost of court to be paid by persons convicted of criminal and traffic offenses for the benefit of crime stoppers organizations. LOGT has been careful to avoid competition with local crime stoppers groups in the highly urbanized areas of the state. But it has been the recipient of Act 50 funds in the rural parishes where no local crime stoppers organizations are established and where hunting and fishing takes place.

The hard work and various funding methods employed by LOGT have resulted in a stable bank account for the reward fund, in spite of paying more than $215,000 in rewards to informants. The fund has allowed the membership to focus on other related wildlife enforcement issues. For instance, LOGT has focused efforts on increasing and improving prosecution at the state and federal levels. Members participate by writing letters to judges and prosecuting attorneys who support the overall enforcement effort. Other members hold offices, raise funds, chair committees and recruit new members.

That kind of teamwork is the product of the longstanding partnership between LOGT and wildlife enforcement agents. There is no doubt that the Enforcement Division of the Louisiana Department of Wildlife and Fisheries would not be nearly as effective without Louisiana Operation Game Thief.

Please do your part and report wildlife violations 24/7 at 1-800-442-2511 or contact your nearest wildlife enforcement agent. You too can be eligible for a cash reward. Send tax deductible donations to LOGT c/o Louisiana Department of Wildlife and Fisheries, P. O. Box 98000 Baton Rouge, LA 70898-9000. For more information about LOGT or to attend the next quarterly meeting, contact Lt. Col. Keith LaCaze at 225/765-2988 or *klacaze@wlf.louisiana.gov.*

LA Cuisine
THE LOUISIANA KITCHEN

Spicy Shrimp with Garlic
(Serves 6)

1 lb.	**medium-sized Louisiana shrimp, peeled, deveined, patted dry**
1/4 tsp.	**cayenne pepper**
1/4 tsp.	**ground turmeric**
1/4 c.	**canola oil**
1/2 tsp.	**black mustard seeds**
5	**cloves fresh garlic, minced**
1	**serrano chile, minced (wear gloves)**
1/2 tsp.	**salt**
2 tsp.	**cilantro, roughly chopped**

Place shrimp in a bowl and dust with cayenne and turmeric. Rub seasonings onto shrimp. Heat oil in frying pan over medium-high heat. When oil is hot, add mustard seeds. In a couple of seconds, the seeds will begin to pop; at this time, add garlic (be careful not to burn) and stir. When garlic turns golden, add serrano chile and stir. Add shrimp and stir. Fry over high heat until they are done (shrimp will be opaque), about 3 minutes. Season with salt and cilantro. Suggested accompaniments: serve with cardamom-infused basmati rice and a crisp garden salad with yogurt dressing.

Photo by Joel Courtney

Summer Squash Fry

2 Tbsp.	**olive oil**
1	**onion, chopped**
2-3	**garlic cloves, crushed**
4-5	**medium-sized zucchini or assorted summer squashes**
1/4 c.	**chicken or vegetable stock**
1/2 tsp.	**fresh oregano, chopped**

Dusting of grated cheese
Chopped fresh parsley as garnish

Saute onion and garlic in the olive oil until onion is barely softened. Add squash and stir-fry a minute or so. Stir in the stock and oregano and simmer gently until the liquid has almost evaporated. Dust with cheese, garnish with parsley and serve. For additional color, add chopped red bell pepper to the mix.

Couscous and Tomato Stuffed Eggplant (Serves 6)

1/2	**head garlic**
4	**eggplants**
3 Tbsp.	**olive oil**
1	**medium onion, peeled and finely chopped**
1	**yellow or red bell pepper, cored, seeded and cut into 1/4-inch dice**
1 tsp.	**sea salt, to taste**
1/2 tsp.	**freshly ground black pepper**
3/4 c.	**uncooked couscous**
1 Tbsp.	**grated lemon zest, finely chopped**
1/4 c.	**low-fat ricotta cheese**
1/4 c.	**fresh flat leaf parsley, roughly chopped, plus more for garnish**
1/2 lb.	**red and yellow cherry tomatoes, cut into eighths**

Heat oven to 400°F. Wrap garlic in aluminum foil. Cook until cloves are soft, 20-30 minutes. Let cool and squeeze the soft garlic from the cloves; set aside.

Cut 3 eggplants in half, lengthwise, and place the 6 halves cut sides up on a cutting board. Using a paring knife, cut around the perimeters, leaving a 1/3-inch-wide border and being careful not to cut through skin. Cutting down through flesh, cut lengthwise into 1/4-inch strips. Using a small spoon, scoop out the strips, keeping skin intact. Cut strips into 1/4-inch dice. Set both the diced eggplant and shells aside. Cut the remaining eggplant, skin on, into 1/4-inch dice and set aside.

In a large skillet, warm 2 Tbsp. olive oil over medium heat. Add onion and cook, stirring occasionally, until soft and slightly browned, 4-6 minutes. Add all diced eggplant, bell peppers, 1/2 tsp. salt, and 1/4 tsp. black pepper. Cover and cook, stirring occasionally, until browned, 6-8 minutes. If mixture starts to become dry, add the additional olive oil. Set aside.

Place couscous in a medium heatproof bowl. Pour 1 cup boiling water over couscous. Cover with clean kitchen towel and let sit until slightly cooled, 10-15 minutes. Fluff with a fork. Add lemon zest, ricotta, parsley, remaining 1/2 tsp. salt, and remaining 1/4 tsp. pepper. Add the reserved eggplant mixture, roasted garlic, and cherry tomatoes. Stir to combine.

Fill each reserved eggplant shell with couscous mixture. Cover with aluminum foil. Bake until warm throughout and shell has softened, 20-25 minutes. Remove from foil, and continue cooking until tops are toasty brown, about 20 minutes. Remove from oven. Sprinkle with parsley and serve.

Menu provided by Scott Page, Kitchen Manager of Whole Foods Market in Baton Rouge.

The king cake featured was made by Chef John Folse. This Mardi Gras season, proceeds from its sale at the South and Southwest Whole Foods Market stores will benefit the White Boot Brigade, a project of Loyola University New Orleans *marketumbrella.org.* This fundraiser will help rebuild the Louisiana shrimping community and support the goals of the White Boot Brigade, which strives toward economic innovation, ecological sustainability, and cultural preservation, creating a domestic, boutique fair trade shrimping industry among the Katrina-affected wild harvest shrimpers.

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